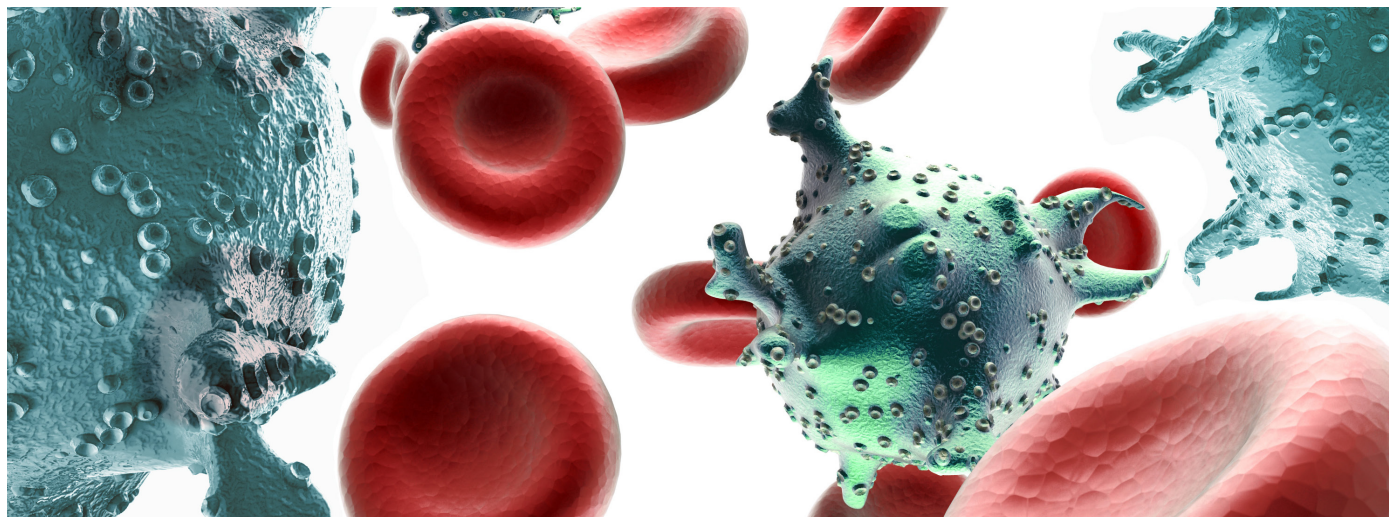


Leading AIDS Drug has Roots in APS



Drug development started in 1996; the drug was approved by the FDA in 2000.

One of the most successful drugs used to stop the progression of the HIV virus into AIDs got its start at the Advanced Photon Source X-ray facility at Argonne National Laboratory.

In 1996 scientists from Abbott Laboratories, who were using the APS, discovered a way to stop the HIV virus from replicating in the body through the use of a protease inhibitor that blocks the breakdown of proteins.

Scientists used X-ray crystallography techniques to pinpoint where the drug should target the virus. The drug was designed to fit into a hole in the HIV protease protein, lock into position there, and prevent the HIV virus from replicating. Out of that work, came the drug Kaletra. During drug design testing, X-ray crystallography work at the APS provided details of how the atoms of Kaletra interact with the viral protein.

Impact

In 2002, Kaletra became the most-prescribed drug in its class for AIDS therapy, and it remains widely used today. Kaletra has been successful in prolonging the lives of thousands of AIDS patients.

Partners

Research was done by scientists from Abbott Laboratories using the APS and the Industrial Macromolecular Crystallography Association Collaborative Access Team beamline, which is operated through a contract with the Hauptman-Woodward Medical Research Institute.

Funding

The U.S. Department of Energy's Office of Basic Energy Science funds the APS. The X-ray beamline used at the APS is funded through an association of pharmaceutical companies, including Abbott, Bristol-Myers Squibb, GlaxoSmithKline, Merck, Novartis, and Pfizer.

Timeline

Development started in 1996; the drug was approved by the FDA in 2000.



U.S. DEPARTMENT OF
ENERGY

Argonne National Laboratory is a U.S. Department of Energy laboratory managed by UChicago Argonne, LLC